C7875-1
12/30/86

208KENDK- B 0 0889 1
KEVIN KENDRICK
CONGRESSIONAL INFO SVC
4520 EAST WEST HWY #800
BETHESDA MD
20814

MACHINING CENTERS

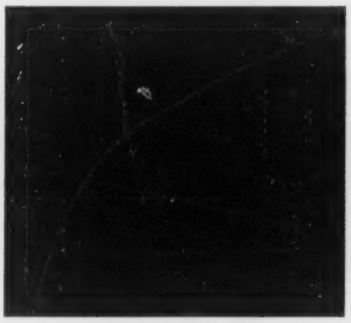
A Real World Technology That Makes Sense

...ODUCTION Roundtable:
...n Small Companies Compete?

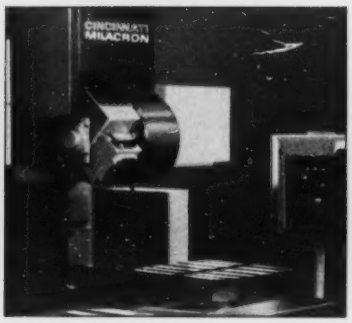
Parts Ma... Tech...
You Can't Ignor...

PRODUCTION

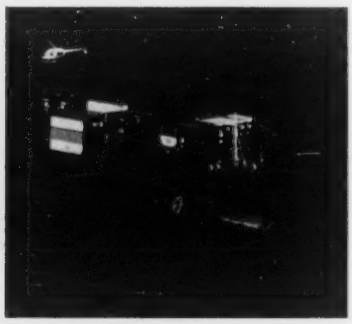
DECEMBER 1986 COVER-TO-COVER VOL. 98 NO. 6



21



36



68

FEATURES

MACHINING CENTERS—A REAL WORLD TECHNOLOGY THAT MAKES SENSE

36 *Machining center technology is not only accessible to large firms but to small and medium sized firms with the production requirements which may benefit most by the flexible automation offered by machining centers.*

ROUNDTABLE: CAN SMALL COMPANIES COMPETE?

51 *Yes, they can say spokesmen for the seven small and medium-sized companies represented at a PRODUCTION Roundtable meeting in Chicago. But the changing U.S. manufacturing climate increases the demands on management.*

PARTS MAKING TECHNOLOGIES YOU CAN'T IGNORE

57 *Newer materials and methods are forcing the traditional metals producer to become better educated about his manufacturing environment while at the same time move toward a new level of competitiveness.*

WHAT IT TAKES TO BE SUCCESSFUL IN THE EXPORT MARKET

68 *As marketing strategists develop corporate plans for increasing market share in the shrinking domestic marketplace, many companies are developing concurrent plans to expand the market size by pursuing foreign sales.*

DEPARTMENTS

3
IMPACT POINT
—Success Stories in Bad Times

4
LETTERS
—Taking on the Accountants

4
EDITORIAL ADVISORY BOARD

5
EDITORIAL MASTHEAD

7
WORLD NEWS UPDATE
—'86 Capital Spending Plans Off
—US Trade Focus on Third World
—Gates Learjet Lands USAF Contract
—Honda Produces Engines in US Plant

21
WORLD TECH BEAT
—Hi-Tech Changes Vendor/Buyer Roles
—Rohr, Grumman Wins FMS Contracts
—New Engine is Gas/Diesel in One
—Sperry Introduces 7 New Products

31
WORTH MENTIONING
—Contracts, Mergers and People

33
ON THE MANAGEMENT SIDE
Don't Let Emotions Get in the Way of Delegation

72
PRODUCT & EQUIPMENT BUYERS' GUIDE
—Heavy-Duty Vertical Mill

76
LITERATURE
—Controls and Gages

78
CLASSIFIED

79
FOR YOUR INFORMATION

80
ADVERTISERS INDEX & BUSINESS MASTHEAD

81
READER SERVICE CARD

World News UPDATE

EAST

'86 Capital Spending Plans Now Off

The U.S. Department of Commerce, late in the third quarter, turned sharply less sanguine about America's capital spending plans for 1986. In fact, in widespread downward revisions across both manufacturing and non-manufacturing industries from earlier uptick estimates, the Department now calls for a 1.9 percent decline against the 1985 figures.

Business plans to spend $379.6-billion for new plant and equipment outlays this year, compared to the $387.1-billion laid out in 1985 (9.2 percent ahead of 1984).

The downward revisions are the most dramatic in durable-goods' manufacturing, now $7.7-billion lower than that reported in April/May surveys (showing slight *gains* over the 1985 figure).

Real-spending—capital spending adjusted to remove price changes—is now estimated to drop 2.4 percent in '86. Real spending had increased 8.7 pct in 1985, following a fat increase of 15.8 pct in 1984, according to the Department's Bureau of Economic Analysis (BEA).

Estimates of real spending are calculated from survey data on current-dollar spending and from estimated capital-goods price deflators developed by the BEA. The capital-goods deflator for "all industries" is projected by BEA to increase 0.6 pct in 1986, following an 0.5 pct increase in 1985.

Current-dollar spending in the second quarter of 1986 declined 0.5 pct, to an annual rate of $375.9 billion, following a 5.0 pct dip in the first; second-quarter spending was 3.0 pct lower than anticipated in the Department's previous survey. Plans reported in the latest survey indicate a 1.3 pct increase in the third quarter and an 0.9 pct gain in the fourth.

Real spending declined 0.5 percent in the second quarter of '86, following a 5.9 percent drop in the first. Estimates now indicate a 1.5 percent gain in the third quarter and a 1.1 percent increase in the fourth.

For all of 1986, durable-goods plan a 6.9 percent decline; the largest decline is in machinery (excepting electrical), at 16.9 percent. Other larger declines are seen in motor vehicles (12.4 percent), blast furnaces and steel works (10.5 percent), stone/clay/glass (6.8 percent), and electrical machinery (6.3 percent).

Aircraft and fabricated metals anticipate gains of 11.9 percent and 11.7 percent respectively. Non-durable goods industries see a 5.5 percent decline. A large expected decline in petroleum, at 27.5 percent, and smaller ones in textiles (7.0 percent) and food beverages (0.2 percent), more than offset planned increases in other non-durable industries.

New Plant and Equipment Expenditures by Business
[Percent change from preceding year]

	ACTUAL		PLANNED 1986			
	1984	1985	Oct.-Nov. 1985 survey*	Jan.-Mar. 1986 survey*	Apr.-May 1986 survey*	July-Aug. 1986 survey[1]
ALL INDUSTRIES	16.3	9.2	2.4	2.3	0.2	–1.9
Manufacturing	19.5	10.6	–.1	–.9	–2.6	–6.2
Durable goods	24.8	10.6	–2.5	–2.9	–1.4	–6.9
Primary metals[2]	18.4	8.5	–3.3	–.1	.1	–3.4
Blast furnaces, steel works	8.9	16.5	–6.8	–2.1	–2.2	–10.5
Nonferrous metals	22.6	–11.8	–1.4	1.9	–.6	2.6
Fabricated metals	22.5	3.9	–.5	7.5	13.2	11.7
Electrical machinery	27.9	5.9	–10.2	–10.7	–4.7	–6.3
Machinery, except electrical	14.1	3.7	–3.7	–3.9	–7.9	–16.9
Transportation equipment[2]	42.8	20.3	2.4	.5	1.1	–8.5
Motor vehicles	53.7	30.6	3.7	1.8	–.3	–12.4
Aircraft	22.7	–3.3	3.0	2.8	13.9	11.9
Stone, clay, and glass	11.6	10.1	.7	–4.6	–5.0	–6.8
Other durables	22.2	19.7	2.3	–.9	5.5	5.0

* As originally published.
1. Surveyed quarterly.
2. Includes industries not shown separately.

R.E. Roseliep Is Top Gun at General Broach

Robert E. Roseliep has acquired controlling interest in General Broach & Engineering Co. (GB&E), Mt. Clemens, Michigan. He has become chairman of the board and ceo, in addition to being president, the post he has held since 1978.

The company was founded in 1943 by Karl E. Eklund to manufacture standard and special broaching tools, and later machines; it has become a recognized leader in its field.

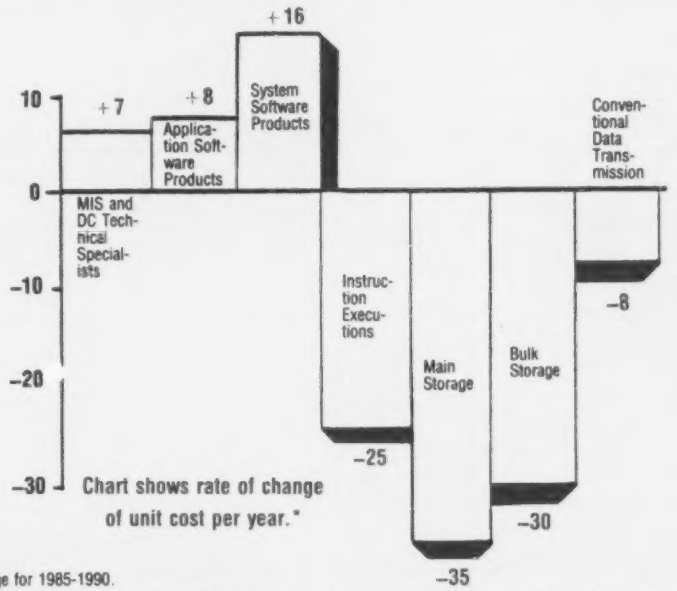
Since its founding, GB&E has formed three other affiliated companies: Eklund Broach & Manufacturing Co., to manufacture broaching tools; Select Machine Co., to remanufacture a variety of machine tools; and Mi-Cad Manufacturing, to provide production contract machining services.

Mr. Roseliep has acquired controlling interest in these firms as well. Raymond K. Eklund, grandson of the founder, owns the balance of GB&E and the affiliate company shares. He takes an active part in company management as executive vice-president.

Mr. Roseliep joined GB&E in 1953.

Robert E. Roseliep takes over at General Broach.

Summary of Key Unit Cost Trends for 1985-1990



*Average for 1985-1990.

Note: Hardware costs are based on OEM price for forecasts for components and not on enduser prices. However, OEM hardware price reductions are beginning to be passed on to end users.

Source: The Diebold Group, Inc.

Hardware Costs Down, Software Up by 1990

A 30 percent annual drop in computer hardware costs in the 1985-1990 period is forecast in a new report by The Diebold Group, Inc., an international management consulting firm. The study also pinpoints an 8 percent drop in "conventional" data communications' costs in the same period, with the "most significant impetus" provided by low-cost VLSI circuits.

Diebold's view: "The last half of this decade will see steady increases in hardware performance/price, with the 5-MIPS microprocessor and the 1-megabit RAM in volume production by early 1987."

Conversely, systems' software costs will increase 16 percent annually, and applications' software costs will grow 8 percent a year—despite improvements in very high-level languages. In contrast, personnel costs are projected by rise annually at 7 percent.

The report notes: "Systems software, including operating systems and database-management systems, is evolving at a very slow pace, with only minor advances expected in the 1985-1990 period."

The report studies product technologies that "amplify" human effort, plus process methodologies for "Information Resource Management." Trends in software-product development and acquisition, basic resource management (of operating systems, database and the like), system architecture (as well as underlying hardware-based technologies—displays, processors, VLSI circuits and so forth) are analyzed in depth to aid firms implementing technology strategies.

–Eastern region reported by Jim Dixon/Philadelphia

Assistance Offered to White-Collar and Blue-Collar Workers

Type of assistance	Establishments offering assistance to workers: White collar (N-309)	Blue collar (N-292)	Overall[1] (N-315)
Financial assistance			
Severance pay	53	34	54
Continuation of health insurance	42	32	43
Continuation of life insurance	27	21	28
Early retirement	15	10	16
Pay in lieu of notice	14	10	15
Lump sum payment	9	9	10
Supplementary unemployment benefits	8	9	10
Placement assistance			
Job search	32	21	31
Administrative support	25	16	26
Personal counseling	19	14	19
Company transfer option	21	10	21
Time off for job search	21	9	20
Career counseling	17	10	16
Relocation assistance	15	5	15
Testing/assessment of worker skills	5	3	5
Occupational training	1	3	3
Job club	2	2	2

[1]Establishments providing assistance either to white collar workers or blue collar workers or both.
SOURCE: U.S. Congress, General Accounting Office, 1986

Workers Get Short End Of the Stick

The Congressional Office of Technology Assessment has issued a report on advance notice to workers on plant closings which says in all but five states workers are given very little advance notice of imminent shutdowns.

The U.S. Congress at least since 1973 has been grappling with the issue with legislation mandating forewarning frequently being put into the Congressional hopper.

The OTA, in its report, stops short of recommending that advance notice become federal law. The five states that currently have laws that either require or encourage companies to notify workers of plant closings are Wisconsin, Michigan, Massachusetts, Maine and Maryland.

Elsewhere in the country the OTA found that workers are given very little advance notice. On average, white-collar workers receive two weeks' notice and blue-collar workers receive seven days and that shrinks to two days if there is no union.

Unions have sought laws requiring managers to post advance notice of plant closings similar to statues in Western Europe and Canada where companies warn workers between two and six months before the closing.

Proponents argue that the advance warning gives workers time to look for new jobs so that their lives aren't so disrupted and it allows time for managers, union leaders and state officials to establish services for these workers.

An earlier study of displaced workers in California found that workers from high tech industries were unemployed for longer periods than displaced workers from other industries, the OTA report noted. Part of the reason given is that workers in the non-unionized high-tech industries didn't receive advance notice of layoffs.

Data collected by the Bureau of Labor Statistics show 54 percent of California's displaced workers expected layoffs or were notified in advance by management compared with 45 percent of the state's high tech workers.

Although the Conference Board, the New York-based business organization, has said advance notification of plant closings can be good for business because it creates good will in the community for the company and improves productivity in remaining plants, businesses generally oppose any legislation requiring advance notice. The businesses' argument traditionally has been that advance notice precipitates a closing because key employees bail out immediately and customers cancel orders.

Even business owners who gave their workers advance notice told the OTA researchers they believe government requirements would be intrusive and inflexible. Small business owners were particularly concerned, saying the requirement would hurt them most.

In particular, the OTA study didn't refute management's view that notice to workers alone isn't enough. State assistance and re-training programs must be available if the advance warning is to have any purpose. This ability is lacking. The government's primary program for displaced workers—Title III of the Job Retraining Partnership Act—is still new. Furthermore, the states are responsible for implementing the program and the OTA study found the states were too undermanned to respond quickly and effectively to announcements of closings and layoffs.

In contrast, Canada's Industrial Adjustment Service is able to quickly set up committees that have been quite effective in finding new jobs for laid-off workers. As a result, the Canadian law requiring advance notification of closings hasn't been onerous for American subsidiaries operating there.

Though U.S. employers do offer some kinds of help for displaced workers, such programs are fragmentary, too brief and skewed to the white-collar force, the OTA study said.

SMT and Sajo Form Umbrella Group Firm

Two of Sweden's major machine tool companies are to merge...under the aegis of Machine Tool Invest, an umbrella company formed by the Swedish government and a number of leading Swedish institutions. The way the move will affect the two companies' varies in different countries.

In the UK, for instance, both companies will continue to operate independently. In the United States, however, Sajo and SMT will combine their sales and marketing operations.

The strategy behind the move is to create a single-source capability to penetrate markets on a broader front. This has occurred in other countries with fragmented machine tool industries. France is a good example and the Italian machine tool group, Comau, was created in this way under Fiat's guidance several years ago. Comau is now a world force in industrial automation—particularly in the auto industry—and is firmly established in the U.S. GM is an investor in the U.S. company.

Other Swedish machine tool companies will join the consortium.

–Europe reported
by Peter Mullins/Great Britain

Thailand: Number of New Factories Registered

Year	Bangkok	Other Provinces	Total
1979	14,337	53,403	67,740
1980	15,982	58,243	74,225
1981	17,470	62,720	80,190
1982	19,269	66,748	86,017
1983	19,981	71,233	91,214

Source: Ministry of Industry

FAR EAST

Thailand Targets Metal Industry For Growth

Thailand's burgeoning metals industry, which includes automobile assembly and parts manufacturing, as well as aluminum and steel fabrication, is targeted for a major increase in the newly developed economic target plan, which runs from 1986 through 1991, according to government and industrial officials.

The move, which is designed to place Thailand in a better competitive position with neighboring Asian countries like Singapore, Taiwan and South Korea, will result in manufacturing assuming a more dominant position in the country's overall economy.

Agriculture has remained the backbone of Thailand's economy, comprising approximately 24 percent of the gross national product and accounting for 60 percent of exports.

But manufacturing is targeted to grow dramatically in importance, with its share of GNP surpassing agriculture by 1990. Manufactured products presently account for 35 percent of exports.

The metalworking industry "is set up as the leading industry for the five-year plan," said Damri Sukhotanang, an official with Thailand's Engineering Industry Development Institute.

The institute, which is funded by the government, provides technical assistance to small and medium-size metalworking industries in the country. This help includes providing engineering aid and technical training to developing companies and working with Thailand's Bureau of Investment to provide tax incentives to the private sector.

The machine tool industry is one of those Thailand has singled out as a special area of attention.

The country already has the beginnings of a metalworking infrastructure. Presently, there are two manufacturers that produce machine tools, several quality casting operations and approximately 16 automobile assembly and parts facilities, including Siam Motors Ltd. (which assembles Nissan and Datsun vehicles) and Toyota Motor Thailand Ltd. (a Thai-Japanese joint venture that assembles 1,300 automobiles and trucks annually at two plants).

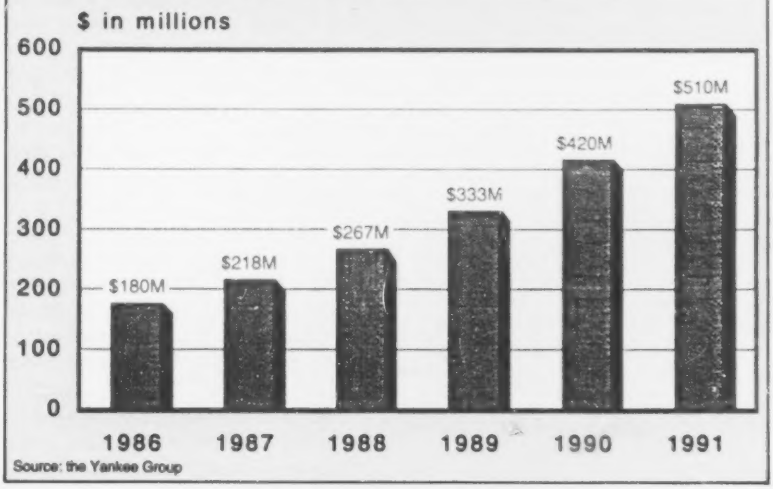
Mr. Damri said the Institute would like to see as many as 10 to 15 different companies build machine tools by 1990 as a means of bolstering the industrial infrastructure.

Nevertheless, the country faces development problems that have to be overcome such as shortage of capital and trained professionals like engineers. Thailand's geographic location also is viewed as a deteriment by some, since it is not as easily accessible.

But Thailand's literacy rate is high, there is political stability and a thriving capitalist economy and labor rates are extremely low.

A PRODUCTION
MAGAZINE staff report

The U.S. Market for DBMS Software at Large and Mid-Size Manufacturing Sites
(Exclusive of microcomputer-based systems)



Source: the Yankee Group

DBMS Has "Major Role" in CIM

"Database management systems (DBMS) and operating systems will be as important as networking in building computer-integrated manufacturing (CIM) systems," according to a new study by the Yankee Group, the Boston-based market research firm.

"Leading-edge users are looking beyond standard networks for consistency in *other* system-level software as a way to build custom systems—or their equivalent—without drowning in software-development expense," the report continues.

According to the report, "Manufacturing Database Management Systems," near-term DBMS buying "remains conservative...while users are innovating, they are doing so on a strictly experimental basis. They will not put the resulting systems into widespread use until proven.

"While each experimental, or 'test-bed' buyer is a relatively high roller, the 'bread and butter' of today's market for DBMS in manufacturing is the mainstream buyer. As shown in Figure 1, the Yankee Group believes that the U.S. market for DBMS software at manufacturing sites with more than 100 employees will grow from $180-million in 1986 to $510-million in 1991."

Advanced EDP System for Ford Stamping Plant

Installation of a $2.4-million advanced production-manufacturing information system for Ford's Woodhaven (Michigan) stamping plant is nearing completion. The contractor is American Cimflex Corporation's Logitek Division.

"This production-manufacturing information system will employ advanced Computer Integrated Manufacturing (CIM) concepts and will use cell controllers, intelligent workstation terminals and a sophisticated data-collection strategy that meets long-term CIM requirements of the factory," noted Dave Burror, president and general manager of the Logitek Division.

The turnkey system uses a broadband communications hookup that networks 251 workstation terminals (WST) that are located throughout the plant.

Plant personnel interact with the system using one or all of the following:

- 31 IBM PCs throughout the plant and running on a local area network.
- 24 four-inch 32-character marquees manufactured by American Cimflex.
- 200 pocket pagers that call appropriate workers and display the station requesting help.

The system will be on line by the first quarter of 1987.

Thermo-Mechanical Finishing Process Developed

"A new manufacturing technology process can save money and produce durable machine parts more quickly for manufacturing industries," said Dr. Maurice F. Amateau, a Pennsylvania State University researcher, University Park, Pa.

This new technology is said to cut a number of steps needed to finish such precision machine parts as cams, bearings, gears and rollers that are used in such industries as automotive, machine, tool and aircraft.

The "Thermo-mechanical finishing process can be directly substituted for many conventional finishing operations that involve metal removal, thus saving considerable cost while maximizing mechanical performance," said Dr. Amateau, professor of engineering science and head of the Department of Engineering Materials at the Applied Research Laboratory at Penn State.

One specific application of this new technology has been used in the finishing of precision gears, and it has been patented by International Harvester's Dr. Amateau.

–Eastern region reported by Jim Dixon/Philadelphia

What It Takes To Be Successful In the Export Market

The potential is there; manufactured goods constitute 76 percent of total U.S. merchandise exports.

By Sandra Lee Brooks
Midwest Editor

"One in six of our manufacturing jobs and one in four of our farm acres produce merchandise for overseas markets. Roughly speaking, every billion dollars worth of American manufactured goods exported means more than 25,000 American jobs. And overall, today nearly 5.5 million American jobs are connected to exports."

–Remarks made by President Reagan during ceremonies opening "World Trade Week", May 19, 1986.

AS MARKETING STRATEGISTS DEVELOP corporate plans for increasing market share in the shrinking domestic marketplace, many companies are developing concurrent plans to expand the market size by pursuing foreign sales.

The potential is there; manufactured goods constitute 76 percent of total U.S. merchandise exports. However, exporting is no easy task; of the total manufactured goods exported, 11 percent is brought to foreign markets by only five exporters. Overall, the U.S. Department of Commerce estimates that only 30,000 of the 300,000 U.S. firms export and an additional 18,000 U.S. firms could export but do not.

The scope of the trade deficit reflects the magnitude of the export challenge. Although the U.S. remains the world's leading exporter trading nearly 16 percent more goods than its closest competitor, the U.S. exports far less of its total production than other trading nations.

Exports for the first six months of 1986 were 1.5 percent above last year's total which will account for an annual rate of $216 billion for this year. At the same time, however, imports rose 6.2 percent to an annual rate of $384 billion. As a result, the trade deficit stands at an annual rate of $168 billion, compared with the $148.5 billion deficit in 1985.

The grim effect is that, as of 1985, the U.S. has shifted from the status of the world's largest creditor to that of the world's largest debtor—it's debt of $107.44 billion surpasses that of Brazil and Mexico.

There are a number of factors which have contributed to the imbalance of trade; the strong dollar, limited financing and government regulations to name but a few. But, even the limited number of successful exporters indicate that such trade barriers can be profitably overcome. The key is to plan.

Export Marketing

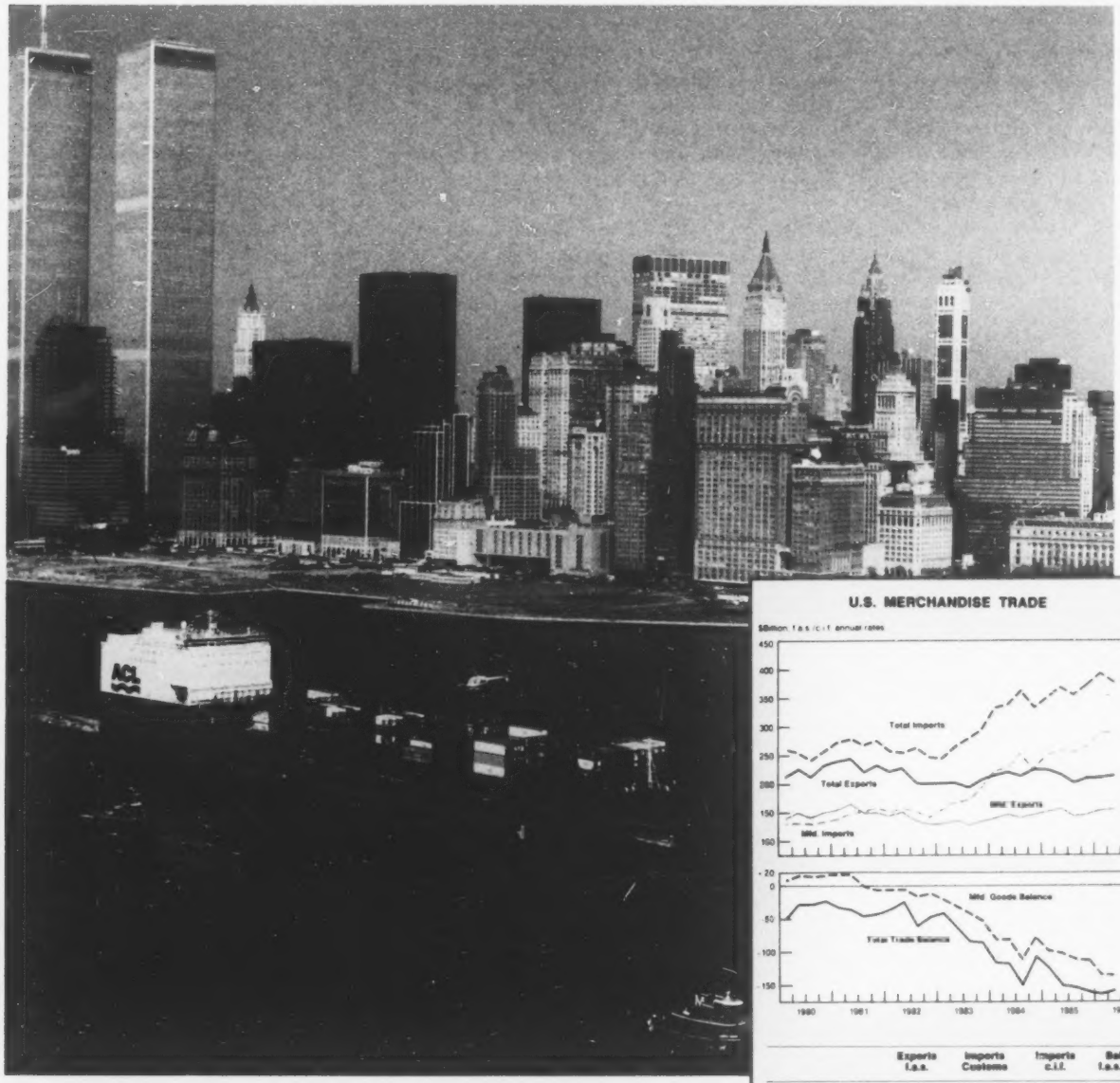
"Foreign producers and many U.S. manufacturers believe that the *real* reason U.S. companies, regardless of size, do not sell overseas is that they do not market. Either companies simply do not try to penetrate foreign markets or the potential is not thoroughly evaluated in the first place," according to Boris Krantz, president, Krantz Associates, Inc., Watchung, New Jersey.

Basic business considerations—specifications, adaptation costs, national and international competitors, target markets, potential users, available capacity, management—demand a detailed understanding in an international marketing venture.

A very simple example is measurement. Parts in the U.S. are produced to inch standards. Virtually all other countries work to metric values. What does the off-shore customer do when called upon to tighten an American-made bolt to measure a part for repair?

As Lee Morgan, retired chairman of Caterpillar and member of the President's Export Council points out, "The U.S. is not the standard of the world." Adapting domestic products to conform to foreign standards and specifications requires careful analysis of design, manufacturing, economic volume quantities and associated costs.

Identification of potential users, target markets and competitors also requires intensive survey work for each specific foreign country and geo/political business structure. One shortcoming of U.S. businesses entering the export marketplace is the failure to fully grasp the implications of the fact that Western Europe, for example,



is *not* a single, large market.

"The image of the European Economic Community (EEC) is in many ways just that...an image. Europe is really very fragmented with differing languages, laws, customs, distribution patterns and business styles," explained Mr. Krantz.

Individual countries have unique barriers vis-a-vis certain countries. Individual governments tax commodities in varying degrees. Privitization of industry, e.g., the United Kingdom and France, also effect a market's tendency for acceptance of foreign product.

A classic case in point is General Motors which for the past three years has headed *Fortune* magazine's list of 50 leading exporters. Its traditional large-wheelbase models never penetrated the affluent European market. Why? Europeans pay free-market prices for fuel and governments heavily tax energy consumption. Further, a sophisticated rail network links Western Europe with economical and punctual service minimizing the need for private transportation.

U.S. MERCHANDISE TRADE

$Billion f.a.s./c.i.f. annual rates

		Exports f.a.s.	Imports Customs	Imports c.i.f.	Balance f.a.s./c.i.f.
		(Billions of dollars, annual rates)			
Total trade					
1985 annual		213.1	345.3	361.6	– 148.5
1985	II	217.3	352.0	368.9	– 151.6
	III	201.4	338.4	354.7	– 153.4
	IV	209.3	356.7	372.8	– 163.5
1986	I	214.6	371.5	388.5	– 173.9
	II	217.9	363.2	379.7	– 161.8
Manufactures trade					
1985 annual		150.7	246.8	258.2	– 107.5
1985	II	157.4	248.3	259.9	– 102.5
	III	143.2	244.4	256.0	– 112.9
	IV	145.1	253.9	265.1	– 120.0
1986	I	153.2	272.1	283.8	– 130.6
	II	154.8	276.8	288.0	– 133.2

Exports for the first six months of 1986 were 1.5 percent above last year's total which will account for an annual rate of $216 billion for this year. At the same time, however, imports rose 6.3 percent to an annual rate of $384 billion.

The potential exporter also must assess the capacity available for foreign markets. Initially, export volume is likely to be marginal and erratic. Can production accommodate peaks in demand or is it prudent to limit export sales volume until realistic forecasts can be made?

If and when an offshore venture is successful, other strategic questions will arise:

- Is the export activity compatible with the company's long term strategy?
- Which strategy should be employed short term?
- Should capacity be increased? What about capital investments?
- Is the purchase of a new plant abroad an option?
- Is the purchase of a commercial distribution network practical?
- Is the company financially strong enough to assume the cost of doing business overseas?
- Does the company have the resources to meet increased demand for R&D, new products, varying specifications?
- Does the company have the legal expertise available to defend patent rights, protect the company on antitrust issues and set up licensing agreements?

Finally, how will the company manage its export business? Who will run the export operation? If it is successful, will control be passed to a foreign national? How will a successful international operation impact on home market and domestic sales/marketing organization?

Risk Management

All business strategies require contingency plans. However, the increased number of factors which affect international trade warrant increased attention to best-care, worst-case scenarios.

Initially, the new exporter is primarily concerned with the availability of cash to start the operation, an adequate distribution channel and the financial strength to survive a loss.

As the export operation matures, risk management strategies will expand to include an evaluation of the life of a defined market and product. This analysis hinges upon the political/social/economic climate of the foreign country(s) as well as the global market situation. If the business is stable and the external factors appear manageable it is time to develop a formal sales and marketing strategy, consider new investments (both domestic and foreign) and strengthen the organization's position in the money markets. "A business whose strength is solely the exchange

'E' Star Awards Cite Accomplishments Overseas

Accepting the "E" Award from President Reagan is Robert M. Sunnen, chairman and ceo of Sunnen Products Co. The company has exported precision industrial and automotive honing equipment for more than 30 years.

The President's "E" Award was created by Executive Order of the President in 1961 to recognize persons, firms or organizations that significantly contribute in the effort to increase U.S. exports.

The "E" Award was introduced as a revival and adaptation of the WWII "E" pennants awarded to industrial plants for superior production. Its origin goes back to 1906, when the U.S. Navy stimulated competition in the fleet by conferring "E" pennants on ships excelling in gunnery, engineering and communications.

The President's "E STAR" Award was authorized by the Secreatry of Commerce in 1969 to afford continuing recognition of noteworthy export promotion efforts by "E" Award recipients.

To qualify for an "E" Award, a manufacturer must substantially increase the volume of exports over a four-year period. In addition, exports should constitute a significant portion of total product sales and/or be mate-

rate is not a business; it is speculation in currency," according to Mr. Krantz.

Implementing the Program

No activity or funds should be committed until a *thorough* study is made of the intended market.

Organize an export management team. Determine who will direct export production, product specifications, quality control, etc.

Formulate a representation agreement. This is a critical factor for success and immensely difficult to establish due to differences in language, culture and education. Stipulate very clearly the terms of the contract: type of partnership, exporting terms and conditions, who has control of what, financial guarantees, minimum sales and/or profit levels, territorial limits, distribution terms and conditions for termination of the agreement.

Plan for the growth of the operation including the broadening of product lines offered and expansion to additional countries. Remember that certain countries demand national ownership of the major equity interest of foreign-owned businesses.

Evaluate the position of your product in the market. Does it already exist? Are there long term customers? Will the market life of the product cover the costs of start-up marketing, manufacturing, inventory, office expenses, etc.? Will the product attract significant local or international competition?

Prepare financial forecasts balancing the potential sales revenues against the cost of exporting. Cost items include production, transportation, packaging, customs and tariff laws, storage, cost of sales in the foreign market, specialized sales support, unsold product and allowance for return, cost of capital for inventory, etc., administrative operations, legal and professional services. The difference between the cost and volume/profit potential should result in a comfortable profit margin, even after distributing commissions.

rially in excess of the industry's average percentage. Further, the company should demonstrate breakthroughs in especially competitive markets, introduce a new product into U.S. export trade, or open a new market.

During World Trade Week, May 19, 1986, President Reagan conferred the "E" Award to: Automotive Parts and Accessories Association, Lanham, Md.; Ferguson Industries, Dallas, Tx.; Kustom Electronics Lenaxa, Ks.; Macbeth, Newburgh, NY; Mayer Wildman Industries, Inc., Orangeburg, SC; Panelfold, Inc., Miami, Fl.; Paper Machinery Corp., Milwaukee, Wisc.; Timberland Co., Portsmouth, NH; and XPORT, the Port Authority Trading Company of the Port of New York and New Jersey.

Recipients of the "E Star" Award were Colonial Beef Co., Philadelphia, Penn.; Dale Electronics, Inc., Columbus, Neb.; First Interstate Convention Bureau, Los Angeles, Calif.; and Sunnen Products Co., St. Louis, Mo.

Export Resources

Making the first international connection is difficult and trying at best. Business rules taken for granted in this country often do not exist in foreign markets. But, persistence, commitment and planning can pay off. Exporting companies report that an average 20 percent of total sales is generated by export sales—in high-tech markets as much as 30 to 40 percent of total sales comes from foreign markets, according to Alfred Woodworth, Jr., managing director, Cambridge International Trading Company, Boston, Mass.

An array of resources are available to the company considering export marketing—often just for the asking or a nominal fee.

One of the most comprehensive sources of foreign marketing information is the U.S. and Foreign Commercial Service (US&FCS), an organization within the International Trade Administration of the U.S. Department of Commerce. A network of 70 U.S. offices electronically linked to 124 overseas posts in 68 countries, the US&FCS functions as an extended marketing arm to more than 95 percent of the global marketplace.

This agency provides a series of market identification and assessment data such as the Export Statistics Profile, Country Trade Statistics, Market Research Reports on selected product categories, Country Market Surveys, International Marketing Information, Overseas Business Reports, Foreign Economic Trends, Export Overview, Comparison Shopping Service and Annual Worldwide Industry Reviews.

The US&FCS also can provide data on potential agents/distributors, prospective customer company profiles and forward sales leads.

Permanent U.S. Trade Centers operated by the Department of Commerce around the world provide year-round facilities for display and demonstration of U.S. products.

U.S.Department of Commerce services are provided for nominal-fees.

A recently revolved resource to the U.S. exporter is the Export Trading Company (ETC). Believing that well-developed ETC's were needed to provide a full range of trade services and achieve economies of scale in order to lower unit costs, Congress enacted the Export Trading Company Act in 1982. Through this legislation, banks are encouraged to invest in ETC's, allowing the trading company to draw upon the financial resources and expertise of the banking system.

XPORT, the first operational public exporting trading company, is operated by the Port Authority of New York and New Jersey. Chartered to directly assist the small-and medium-sized firm, its major programs are Trade Missions and the Foreign Buyers Match. Through these programs, more than $4 million in new sales has been generated for regional firms. Other Port Authority ETC's are located in Mobile, Ala.; Detroit, Mich.; Savannah, Ga.; Boston, Mass.; Wilmington, N.C.; Houston, Tex.; LaPlace, La.; New York, N.Y.; and Norfolk, Va. P